STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION

SALEM TO MANCHESTER
13933G

March 10, 2009

ADDENDUM NO. 1

Bidders are advised to make the following revisions to the Plans and Proposal:

1. **Insert**, in the Proposal, on page 29, in the Prosecution of Work, after the last paragraph under the ***Traffic Signing*** heading, the following:

   "This project is being advertised as part of the American Recovery and Reinvestment Act. The Contractor shall provide and install four (4) traffic signs (2) each on the I-93 NB and SB barrels as shown on the detail included elsewhere in the Proposal. This work will be subsidiary to Item 619.1 – Maintenance of Traffic."

2. **Amend**, in the Proposal, on page 30, in the Prosecution of Work, the first paragraph under the ***Corridor Field Office*** heading, to read:

   "Work associated with the renovation of the existing building located on the 77 Indian Rock Rd. Property, in Windham (Plan Parcel number W38) has been included in this contract under Item 802.11 – Building Renovations (Corridor Field Office) (see Volume Two in the plan set). Bidders are advised to inspect the building on their own accord during the bid period to determine all conditions and requirements of the work in accordance with section 102.05 of the standard specifications. Call Lisa Denoncourt, at the Bureau of Right-of-Way (603-271-7128), for an appointment to gain access to the inside of the building."

3. **Insert**, into the Proposal, page 122A and 122B, the **Special Attention** noting this as an **Economic Stimulus Project under the American Recovery and Reinvestment Act**, including the **traffic signage exhibit**.

4. **Delete**, in the Proposal, page 164, the **Special Attention for Section 107.11 – Responsibility for Damage Claims.**

5. **Replace**, in the Proposal, page 156 with page 156A, the Supplemental Specification for **Section 101.67 Major and Minor Contract Items.**

6. **Replace**, in the Proposal, pages 307 through 313 with pages 307A through 313A, the **Special Provision for Section 645 – Erosion Control.**

7. **Insert**, in the Proposal, on page 334, the **Special Provision for Item 698.11913 – Field Office (Equipment and Supplies)**, with the following:

3.2 Maintenance

3.2.1 The Contractor shall provide a cleaning service once (1) a week, which shall include satisfactory cleaning of the public areas, including, but not limited to, the front entry, the front meeting room, and the two (2) bathrooms.

8. **Replace**, in the Proposal, pages 320 through 321A with pages 320A through 321F, the **Special Provision for Item 670.048 – Construct Emergency Access Road.**

9. **Insert**, into the Proposal, in Volume II, the **Special Provision for Item 802.11- Building Renovations (Corridor Field Office)**, the following information:

A.) Provide and install a new concrete entrance pad, sloped walkway, and approach pad as indicated on the attached **SK-1 detail**. Remove and dispose of existing wooden entrance platform.

B.) Provide and install pavement striping to create one ADA compliant parking space on the existing pavement. In addition, provide and install a freestanding ADA compliant parking sign (configured and installed as per State of NH DOT requirements.) Provide ADA required graphics on both the sign and the striped space. Locate sign and space as directed by the Owner.

C.) Provide and install new painted aluminum sloped flashing over the new masonry reinforcement wall to provide a watertight condition at the top of the wall. Finish to match other aluminum trim.

THE CONTRACTOR SHALL ACKNOWLEDGE THIS ADDENDUM ON THE BID ENVELOPE

William J. Cass, P. E.
Director of Project Development

3-10-09
Date

SPECIAL ATTENTION

The American Recovery and Reinvestment Act of 2009

The Contractor is advised that this project is Federally funded as part of the Economic Recovery Plan. The contractor is encouraged to provide all contract documents as soon as possible for expedited Governor and Executive Council award.

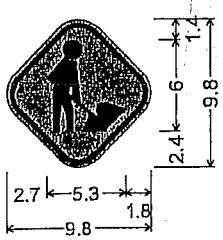
Funding

The Department reserves the right not to award this Contract based on the availability of funding in the American Recovery and Reinvestment Act (ARRA). In the event that the Department does not award or terminates the Contract per 108.11, the Contractor shall not make any claim against the Department for Additional Costs described in 108.B.1 or for anticipated profits. Additionally, the scope of this contract may also be expanded or reduced based on the total amount of funding available in the ARRA. The scope of this contract could also be adjusted based on quantity balances during the execution of the contract. Addition or elimination of sections will be determined by the Engineer and shall not be considered as a change in the scope of work per 104.

Job Reporting

As part of the Economic Stimulus Bill, (H.R. 1), the Act, periodic reporting is required. The Contractor shall report the number of direct, on-project jobs created or sustained by the Federal funds and shall report to the extent possible, the estimated indirect jobs created or sustained in the associated supplying industries, including the number of job-years created.

SCS-01; 2.3" Radius, 0.6" Border, 0.4" Indent, Black on Orange;
"PUTTING AMERICA" C 250% spacing; "TO WORK" C 250% spacing;
SCS-06; 3.0" Radius, 1.0" Border, White on Green;
"PROJECT FUNDED BY THE" C; "American Recovery" C; "and" D; "Reinvestment Act" C;
"COMPLETION SEPTEMBER 2009" C;



W21-1A MIN;
8.0" across sides 1.9" Radius, 0.3" Border, 0.3" Indent, Black on Orange;

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This project requires four (4) of the "*American Recovery and Reinvestment Act*" signs. Two (2) signs shall be located on each of the NB and SB barrels of I-93. The completion date for this project is June 2012. Work associated with these signs shall conform to, as well as, be subsidiary to Item 619.1 – Maintenance of Traffic.

122B

03/03/09
SSD: 02/19/08

SUPPLEMENTAL SPECIFICATION

SECTION 101 – DEFINITIONS AND TERMS

101.67 MAJOR AND MINOR CONTRACT ITEMS.

Amend Section 101.67 to read:

Any contract pay item for which the original unit bid price multiplied by the original item quantity exceeds the following minimum major item value based on total contract bid price or 3% of the total contract bid price, whichever is less. All other contract items are considered as minor items.

Total Contract Bid Price	Minimum Major Item Value
≤ $1,000,000.00	$25,000.00
> $1,000,000.00 to ≤ $5,000,000.00	$100,000.00
> $5,000,000.00 to ≤ $20,000,000.00	$300,000.00
> $20,000,000.00	$600,000.00

If no major contract items are identified using the above criteria, then the major item or items shall be the three (3) highest total dollar bid items, excluding Item 692 – Mobilization.

156A

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SPECIAL PROVISION

AMENDMENT TO SECTION 645 -- EROSION CONTROL

Storm Water Pollution Prevention Revisions and the Addition of Item 645.48 - Erosion Control Mix

Amend 1.3 to read:

1.3 Storm Water Pollution Prevention Plan (SWPPP). This work shall consist of a temporary erosion and sediment control and storm water management plan, hereinafter called the **Storm Water Pollution Prevention Plan or "SWPPP"**. The work includes all necessary preparations for submissions and revisions of the SWPPP to obtain approval by the Department. This work shall also include monitoring the approved **SWPPP** during all phases of construction.

1.3.1 The Department will furnish the following data to the Contractor:

- Specific reproducible plan sheets and cross-sections of the project, as requested,
- Drainage calculations and plans (drainage area size and characteristics; runoff volume; type, size, and slope of pipes; invert elevations; and outlet velocities), as available,
- Geotechnical Report including soil boring logs, soil types, and test pit data, as available,
- Permits and certifications obtained for the project, and
- A list of environmental commitments.
- A copy of the NHDOT's Notice of Intent application.
- A copy of the NHDOT's Acknowledgement letter from EPA
- Documentation of permit eligibility related to federally listed threatened and endangered species NHDES Wetlands Permit "Plan of Record".

1.3.2 Recommended guides for the preparation of the SWPPP are the National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP), **June 30th, 2008 (73 FR 40338).** The AASHTO Highway Drainage Guideline, Volume III, *Guidelines for Erosion and Sediment Control in Highway Construction*, available from the American Association of State Highway and Transportation Officials, Inc., 444 North Capitol St. N.W., Suite 249, Washington, D.C. 20001; the ***New Hampshire Stormwater Management Manual, Volume 3, Contstruction Phase Erosion and Sediment Controls*** available from the New Hampshire Department of Environmental Services (NHDES) Public Information and Permitting Office, PO Box 95, 6 Hazen Drive, Concord, NH 03302-0095, Telephone (603) 271-2975 and the Rockingham County Conservation District in Exeter, NH, Telephone (603) 772-4385;the NHDOT Guidelines for Temporary Erosion and Sediment Control and Stormwater Management (May 2002).

1.3.3 The **SWPPP** shall be consistent with the provisions of 107.01.

307A

Amend 3.1 to read:

3.1.1 Prior to the start of any land disturbance activities, the Contractor shall submit four sets of the Storm Water Pollution Prevention Plan (SWPPP) described in 3.2 for approval in accordance with 105.02 for clearing, grubbing, grading, drainage and bridge structures, especially in or adjacent to existing waters, water courses and wetlands. The Department's review time will be proportional to the complexity of the **SWPPP** and will be within 15 working days. No work requiring erosion/ sediment control shall commence until the **SWPPP** has been approved. Names of designated personnel to perform field monitoring shall be included in the submittal. The **SWPPP** may be submitted in phases or for specific construction areas **addressing the maximum open area allowed in section 3.1.4.** Only work within areas covered by an approved **SWPPP** will be allowed to be performed.

Amend 3.1.2 to read:

3.1.2 Permanent and temporary erosion control features shall be incorporated into the project at the earliest practicable time, as specified on the plans, as stated in 107.01, and as outlined in the approved **SWPPP**. Temporary erosion and sediment control measures shall be used to correct conditions that develop during construction to temporarily control erosion not associated with permanent control features.

Amend 3.1.4 through 3.1.13 to read:

3.1.4 The **maximum** amount of **allowed** disturbed earth material exposed shall not exceed a total of **5 acres** for all operations within the right-of-way at any one time. The Contractor **may be permitted to** exceed the maximum open area allowed, with approval from the Department, **provided the Contractor's SWPPP shows adequate provisions to control erosion and sediment, provided the additional area of disturbance is necessary to meet the Contractors Critical Path Method schedule (CPM), and the contractor can demonstrate there are adequate resources available (equipment & manpower) to respond to multiple events simultaneously.** In addition, the SWPPP shall show stabilization procedures for any areas that are inactive for more than fourteen days. The **SWPPP** shall identify when exposed material will be protected from erosion and when temporary and permanent erosion control measures will be installed.

3.1.5 For the construction period between November 30th through May 1st the area of exposed, unstablized soil shall be limited to one acre. The allowable area of exposed soil may be increased provided a winter construction plan shows adequate provisions to control erosion and sediment, provided the additional area of disturbance is necessary to meet the Contractors Critical Path Method schedule (CPM), and the contractor can demonstrate there are adequate resources available (equipment & manpower) to respond to multiple events simultaneously and is reviewed and approved by the Department.

3.1.6 The Engineer will limit the area of **clearing**, grubbing, excavation, borrow and embankment operations commensurate with the Contractor's capability and progress **and in no case shall exceed a total of 5 acres without prior approval**, in keeping the finish grading, mulching, seeding, erosion and sediment control measures concurrent with operations in accordance with the accepted **SWPPP**.

3.1.7 Earth excavation and embankment slopes shall be permanently or temporarily treated for stabilization before the time the slant height of exposed slopes reaches 30 ft. (9 m), unless otherwise approved. Where construction activities are completed within the growing season, all exposed soil areas

shall be permanently stabilized within 14 calendar days. Where construction activities are temporarily suspended or completed outside of the growing season, all exposed soil areas shall be treated for stabilization within 14 calendar days.

3.1.8 An area shall be considered "stabilized" when it is in a condition in which the soils on the site will not erode under the conditions of a 10-year storm.

3.1.9 As work progresses, patch seeding and mulching shall be done as required on areas previously treated to maintain or establish protective cover.

3.1.10 Drainage pipes and ditches shall be constructed in a sequence from outlet to inlet in order to stabilize outlet areas and ditches before water is directed to the new installation or any portion thereof unless conditions unique to the location warrant an alternative method. If this unique condition exists, the alternative method will require written approval.

3.1.11 Channel and ditch work, including erosion protection shall be completed before diverting the drainage to these areas.

3.1.12 In the event of conflict between these requirements and erosion and sediment control laws, rules or regulations of other Federal, State or local agencies, the more restrictive laws, rules or regulations shall apply.

3.1.13 In case of failure on the part of the Contractor to provide and maintain effective temporary erosion and sediment control, as determined by the Engineer, the Department reserves the right to employ outside assistance or to use its own forces to provide the necessary corrective measures.

Amend 3.2 to read:

3.2 Storm Water Pollution Prevention Plan. (SWPPP)

3.2.1 This Item addresses the preparation and implementation of a **SWPPP** required by the National Pollutant Discharge Elimination System (NPDES) and applicable Construction General Permit (CGP). The **SWPPP** shall be prepared, stamped and signed by a Licensed Professional Engineer registered in the State of New Hampshire, **and a Certified Professional Erosion and Sediment Control Specialist (CPESC)**, qualified to prepare erosion and sediment control plans, hereinafter called the "Preparer". Collaboration with other professionals such as soil scientists, geologists and environmentalists may be required as appropriate.

3.2.1.1 Qualifications for the **SWPPP** Preparer include a minimum of 5 years experience or knowledge of highway and bridge construction operations, with knowledge of methods of construction, demonstrated knowledge of erosion and sediment control, and stormwater management measures. The preparer shall have previously submitted accepted plans to the New Hampshire Department of Environmental Services (NHDES) under RSA 485-A:17 Terrain Alteration, or have prepared accepted plans under the National Pollutant Discharge Elimination System permit program.

3.2.1.2 Qualifications for the **SWPPP** Monitor shall include a minimum of 2 years experience or knowledge of highway and bridge construction **and be certified as a Certified Erosion Sediment and Storm Water Inspector (CESSWI)** with knowledge of methods of construction, demonstrated field knowledge of erosion control measures; their design, effectiveness, and maintenance requirements.

3.2.1.3 The Contractor shall submit the name and qualifications of the person or firm proposed to prepare the **SWPPP** to the Engineer for approval prior to preparing the **SWPPP**. Submittal of the name and qualifications will be accepted after the opening of bids.

3.2.2 The Construction General Permit (CGP) also requires the preparation and implementation of a **SWPPP** in accordance with the afore-mentioned statutes and regulations. The **SWPPP** will include the CGP conditions and detailed descriptions of controls of erosion and sedimentation to be implemented during construction. It is the responsibility of the Contractor to prepare the **SWPPP** to meet the requirements of the most recently issued CGP. The Contractor shall submit the **SWPPP** to the Engineer for approval prior to any soil disturbance activities. It is the responsibility of the Contractor to be familiar with the CGP conditions and the conditions of any state Wetlands permit, Water Quality Certification, Corps of Engineers Section 404 Permit and other state and federal environmental permits applicable to this project and to include in the **SWPPP** the means and methods necessary to comply with applicable conditions of said permits.

It is the responsibility of the Contractor to complete the SWPPP in accordance with the EPA Construction General Permit, provide all information required, and obtain any and all certifications as required by the Construction General Permit. Any amendments to the SWPPP required by site conditions, schedule changes, revised work, construction methodologies, and the like are the responsibility of the Contractor. Amendments will require the approval of the Engineer prior to implementation.

The Contractor is responsible for preparation of the SWPPP, all SWPPP certifications, inspections, reports and any and all corrective actions necessary to comply with the provisions of the CGP.

3.2.2.1 A schedule of construction phasing, **including maximum open area allowed,** and a schedule for monitoring and maintaining the SWPPP shall also be included. BMP's for seasonal (i.e. cold weather/frozen ground, **from November 30th through May 1st**) applications shall be identified. The construction phasing shall address the various erosion and sediment control and storm water management measures to be implemented at each phase of construction. Phases shall be as shown on the Traffic Control Plan, Prosecution of Work, or as required by the Contractor's approved **construction sequence plan**.

3.2.2.2 Turbidity limitations in receiving waters noted in 107.01 shall be addressed in the **SWPPP**.

3.2.2.3 Department plan drawings will show the construction site(s) conditions prior to and after construction by including property lines, right-of-way lines, easements, existing and new structures, drainage, flood plains, wetlands, limits of clearing and grading, proposed final drainage, detours, permanent erosion and sediment control measures, and other critical items. The Contractor's plan drawings shall show temporary drainage and erosion and sediment control measures for the construction site(s) on the contract plans provided by the Department. Additionally the Contractor shall provide plans showing all of the above items for proposed areas related to the construction site(s) not shown on the Department's contract plans, including but not limited to, access and haul roads, equipment and material storage sites, material pits, material processing sites, and disposal areas, except municipally authorized landfill areas and commercial sites. Waste materials are quite often materials unsuitable for embankment construction and generally very susceptible to erosion; therefore, the Contractor shall pay close attention to controlling erosion of these materials.

3.2.2.4 Additional design typicals illustrating practices for erosion and sediment control not shown on the Department plans shall be included in the **SWPPP**. Calculations shall be included to verify all erosion and sediment control and stormwater management practices such as, but not limited to, sediment retention and detention basins, energy dissipaters, diversions, waterways, and control of runoff.

3.2.3 The Preparer or the Preparer's designated representative shall assist the Contractor in implementing the **SWPPP**, monitor the site for compliance with the **SWPPP** and recommend modifications to the **SWPPP** for changing operations or inadequate erosion and sediment control and stormwater management measures and shall **attend weekly (or as required by the Engineer) meetings**. The Preparer shall make modifications to the **SWPPP** as necessary and resubmit for review and approval in accordance with 3.1.1. Review time of modifications will be within 10 working days of submittal.

3.2.3.1 Monitoring SWPPP and Erosion and Sediment Control shall include on-site reviews, weekly and within 24 hours after any storm event greater than 0.5 in. (13 mm) of rain per 24 hour period **and producing meeting minutes of the weekly meetings for distrubution as required**. A monitoring report prepared by the **SWPPP** Monitor stating the inspection date, name, title, qualifications and signature of person performing the inspection, weather information for the period since the last inspection, weather information at the time of inspection, locations and description of any discharges, a summary of construction activities undertaken during the reporting period, general site conditions, erosion control maintenance and corrective actions taken, the anticipated schedule of construction activities for the next reporting period, any SWPPP amendments, and representative photographs.

A copy the monitoring report and weekly meeting minutes shall be provided to the Engineer and maintained on file with the SWPPP at the project site.

3.2.3.2 The Engineer may order modifications to the **SWPPP** for changing operations or for inadequate erosion and sediment control and stormwater management measures. Changes and/or modifications shall be noted by the **SWPPP** Preparer on the approved **SWPPP** located at the project site.

3.2.3.3 The Preparer of the **SWPPP** shall be available for on-site consultations with the Engineer within 24 hours of request.

3.2.4 Project work may be suspended, wholly or in part, with no extension of time or additional compensation for failure to implement and maintain the approved **SWPPP**, including modifications, in accordance with 105.01.

Amend 3.9 through 3.10 to read:

3.9 Erosion Control Mix

3.9.1 Erosion control mix shall be placed to provide for temporary control of erosion or sedimentation including, slope stabilization, check dams and berms, inlet control or where ordered.

3.9.2 The mix shall have an organic portion between 25% and 65%, dry weight basis, and be fibrous and elongated such as from shredded bark, stump grindings, composted bark, or equivalent manufactured products. The mix shall not contain silts, clays, or fine sands.

3.9.3 The mix shall have a pH between 5.0 and 8.0 and a particle size by weight of 100% passing a 3-inch screen, 90% to 100% passing a 1-inch screen, 70% to 100% passing a 0.75-inch screen, and 30% to 75% passing a 0.25-inch screen.

3.10 Maintenance.

3.10.1 Erosion control features shall be maintained by the Contractor throughout the life of the project.

Add 4.8:

4.8 Erosion Control Mix will be measured per CY (cubic meter) in accordance with 109.01.

Amend 5.6 to read:

5.6 The accepted Storm Water Pollution Prevention Plan **(SWPPP)** will be paid for at the contract lump sum price. Initial payment will be up to **25** percent of the amount bid upon approval of the **SWPPP** for the entire project. Subsequent payments will be made periodically based on the anticipated construction period **and proposed construction sequence.**

Amend 5.6.2 to read:

5.6.2 The accepted quantities of Monitoring SWPPP and Erosion and Sediment Controls will be paid for at the contract unit price per hour.

Amend 5.6.3 to read:

5.6.3 Erosion and Sediment Control and Stormwater Management items necessary to implement and maintain the **Storm Water Pollution Prevention Plan (SWPPP)** for the construction site(s) will be paid for under the appropriate Items of 645 or as provided under Section 699.5.

Amend 5.7 through 5.10 to read:

5.7 The accepted quantity of erosion stone will be paid for at the contract unit price per ton (ton) delivered to the project, **complete in place**, including any required excavation and stone removal, as ordered.

5.8 The accepted quantity of erosion control mix will be paid for at the contract unit price per CY (cubic meter) delivered to the project , complete in place, including any required stump grinding, excavation, as ordered.

5.9 The Contractor shall maintain areas with permanent control, with no extra compensation, until the completion of the contract.

5.9.1 Repair and maintenance of damaged or failed slopes, until project acceptance as stated in section

5.9.2 The Department reserves the right to employ outside assistance or to use its own forces to provide the necessary corrective measures and deduct the cost from money due the Contractor and/or withhold progress payments.

5.10 Erosion control measures including dust control required for stockpiles of materials subject to wind or water erosion shall be at the expense of the Contractor.

Add to Pay items and units:

645.48	**Erosion Control Mix**	**CY (Cubic Meter)**

Salem-Manchester
13933G

March 10, 2009

SPECIAL PROVISION

SECTION 670 -- MISCELLANEOUS INCIDENTALS

Item 670.048 - Construct Emergency Access Road

Description

1.1 This work shall consist of constructing an emergency access road including a motorized sliding gate and Opticom system as shown on the plans or as ordered. The typical section to define the earthwork (excavation and embankment), side slopes, shoulders, base courses and pavement requirements will be as shown on the plans or as ordered. The estimated quantities to construct the emergency access road will be shown on the plans for bidding purposes only and will not be used for payment.

Materials

2.1 The fence, motorized cantilevered sliding gate, and conduit system shall be designed and submitted to the Engineer for approval.

2.1.1 Motorized cantilevered slide gate shall be "Fortress Heavy Duty Cantilever Slide Gate" as manufactured by Tymetal Corporation (www.Tymetal.com) or approved equal. Further, it shall be an 18 foot opening, chain link slide gate with aluminum coated steel fabric, 6-foot high, motorized (Opticom activated).

2.1.2 The motorized cantilevered slide gate shall be activated by multiple sources including Opticom, push button, and manually operated.

2.1.3 The motorized cantilevered slide gate shall include a concrete base, meter, and meter pedestal at locations shown on the plans, conforming to Standard No. SL-2 (Traffic signal meter pedestal and foundation).

2.1.4 3 - Optical Fire Preempter receivers Opticom Model 711.

2.1.5 2 - Handheld Emergency Transmitters

2.1.6 8 ft P & K signal pole, model SP 104, or approved equal, including foundation and pole mounted cabinet to house components needed for Emergency Pre-emption detection.

320A

2.1.7 1 – Electric service complete.

2.1.8 2 - Confirmation strobe light, 120 VAC, with red Lexan optic lens. Whelen Model, IAC 12 RP, or approved equal, including mounting on bridge.

2.1.9 Provide a factory-assembled automatic operating system designed for gate size, type, weight, and operation frequency. Provide operation control system with characteristics suitable for project site conditions, with remote control stations, safety devices, and weatherproof enclosures; coordinate electrical requirements needed with Town of Windham and the local electric utility company. See attached Appendix A for gate operation characteristics.

2.2 All other work and materials necessary shall conform to the material requirements of the respective items.

Construction Requirements

3.1 Existing guardrail will be removed as shown on the plans or as directed under the pertinent provisions of Section 202.

3.3 Excavation and embankment shall be constructed in accordance with pertinent provisions of 203.3.

3.4 Drainage items shall be installed where necessary or as directed and constructed in accordance with the pertinent provisions of 603.3 and 604.3.

3.5 Aggregate base courses shall be constructed to the depth and width shown on the plans in accordance with the pertinent provisions of 304.4.

3.6 Required pavement shall be constructed as shown on the plans in accordance with the pertinent provisions of 401.3 and 403.3.

3.7 The fencing, conduit, pull boxes, meter and pedestal, and motorized slide gate will be constructed as shown on the plans or as directed in accordance with the pertinent provisions of 607, 614, 520 and other details included in the Plans.

3.8 All other items necessary to construct the access road shall be constructed in accordance with the pertinent provisions of the item.

3.8.1 Disposal of unsuitable material(s) removed from the access road shall be the responsibility of the Contractor as set forth in the provisions of Section 203.3.9.

3.9 The Contractor shall provide a qualified technician to thoroughly review and confirm that the gate system is satisfactory and operational as designed. Prior to the final inspection, the

Contractor shall have a review with the NHDOT Bureau of Traffic representative and local officials (including Fire Department technician) to review and comment upon the system.

Method of Measurement

4.1 Construction of the emergency access road will be measured as a unit. A unit shall consist of clearing and grubbing, all earthwork (including topsoil excavation), existing guardrail removal, aggregate base courses, drainage structures, pavement, guardrail, required fencing and motorized slide gate, conduit and pull box installation (including bridge mounted systems), required signage, necessary slope treatments, bituminous curb, maintenance of traffic including installing concrete barrier and temporary lighting that may be required, installing, maintaining, and removing construction signs and warning devices, installing and maintaining erosion control measures, and any associated work not specifically described herein.

Basis of Payment

5.1 The accepted quantity of Construct Emergency Access Road will be paid for at the contract lump sum price, complete in place.

Pay items and units:

670.048	Construct Emergency Access Road	Unit

Item 670.048 – Construct Emergency Access - Appendix A

1. GATE OPERATORS

A. General: Provide factory-assembled automatic operating system designed for gate size, type, weight, and operation frequency. Provide operation control system with characteristics suitable for Project conditions, with remote-control stations, safety devices, and weatherproof enclosures; coordinate electrical requirements with existing electrical system (including contacting the Town of Windham for any applicable building code requirements).
   1. Provide operator designed so motor may be removed without disturbing limit-switch adjustment and without affecting auxiliary emergency operator.
   2. Provide operator with UL List Control Panel.
   3. Provide electronic components with built-in troubleshooting diagnostic feature.

B. Comply with NFPA 70.

C. Motor Characteristics: Sufficient to start, accelerate, and operate connected loads at designated speeds, within installed environment, with indicated operating sequence, and without exceeding nameplate rating or considering service factor. Comply with NEMA MG-1 and the following:
   1. Voltage: 208 V, 3-Phase.
   2. Horsepower: 3/4.
   3. Enclosure: Totally enclosed.
   4. Duty: Continuous duty at ambient temperature of 105 deg F (40 deg C) and at altitude of 3300 feet (1005 m) above sea level.
   5. Service Factor: 1.15 for open drip proof motors; 1.0 for totally enclosed motors.
   6. Phase: 3-Phase.

D. Gate Operators: Pedestal post mounted and as follows:
   1. Mechanical Slide Gate Operators:
      a. Duty: Heavy duty, commercial/industrial.
      b. Gate Speed: Minimum 45 feet (13.7 m) per minute minimum.
      c. Maximum Gate Weight: 800 lb (363 kg).
      d. Frequency of Use: 10 cycles per hour.
      e. Operating Type: Wheel and rail drive, Roller chain, with manual release.
      f. Drive Type: Enclosed worm gear and chain-and-sprocket reducers, roller-chain drive.
      g. Drive Type: V-belt and worm gear, chain-and-sprocket reducers, roller-chain drive.

321D

E. Remote Controls: Electric controls separated from gate and motor and drive mechanism, with NEMA ICS 6, Type 4 enclosure for pedestal mounting, and with space for additional optional equipment. Provide the following remote-control device(s):
   1. Control Station: Keyed, three-position switch, located remotely from gate. Provide two keys per station.
   2. Control Station: Momentary-contact, three-button-operated; located remotely from gate. Key switch to lock out open and close buttons.
      a. Function: Open, stop, and close.
   3. Opticom Detection Device (see Section 2.2).
   4. Vehicle Presence Detector: System including automatic closing timer with adjustable time delay before closing, timer cut-off switch, and presence detector designed to hold gate open until traffic clears, reverses gate. Provide emitter/receiver detector with adjustable detection zone pattern and sensitivity, designed to detect the presence or transit of a vehicle in gate pathway when infrared beam in zone pattern is interrupted, and to emit a signal activating the gate operator.

F. Obstruction Detection Devices: Provide each motorized gate with automatic safety sensor (s). Activation of sensor(s) causes operator to immediately function as follows:
   1. Action: Reverse gate in both opening and closing cycles and hold until clear of obstruction.
   2. Action: Stop gate in opening cycle and gate in closing cycle and hold until clear of obstruction.
   3. Internal Sensor: Built-in torque or current monitor senses gate is obstructed.
   4. Sensor Edge: Contact-pressure-sensitive safety edge, profile, and sensitivity designed for type of gate and component indicated, in locations as follows. Connect to control circuit using take-up cable reel, self-coiling cable.
      a. Along entire gate leaf leading edge.
      b. Along entire gate leaf trailing edge.
      c. Across entire gate leaf bottom edge.
      d. Along entire length of gate posts.
      e. Along entire length of gate guide posts.
   5. Photoelectric/Infrared Sensor System: Designed to detect an obstruction in gate's path when infrared beam in the zone pattern is interrupted.

G. Limit Switches: Adjustable switches, interlocked with motor controls and set to automatically stop gate at fully retracted and fully extended positions.

H. Emergency Release Mechanism: Quick-disconnect release of operator drive system of the following type of mechanism, permitting manual operation if operator fails. Design system so control circuit power is disconnected during manual operation.
   1. Type: Integral fail-safe release, allowing gate to be pushed open without mechanical devices, keys, cranks, or special knowledge.
   2. Type: Mechanical device, key, or crank-activated release.

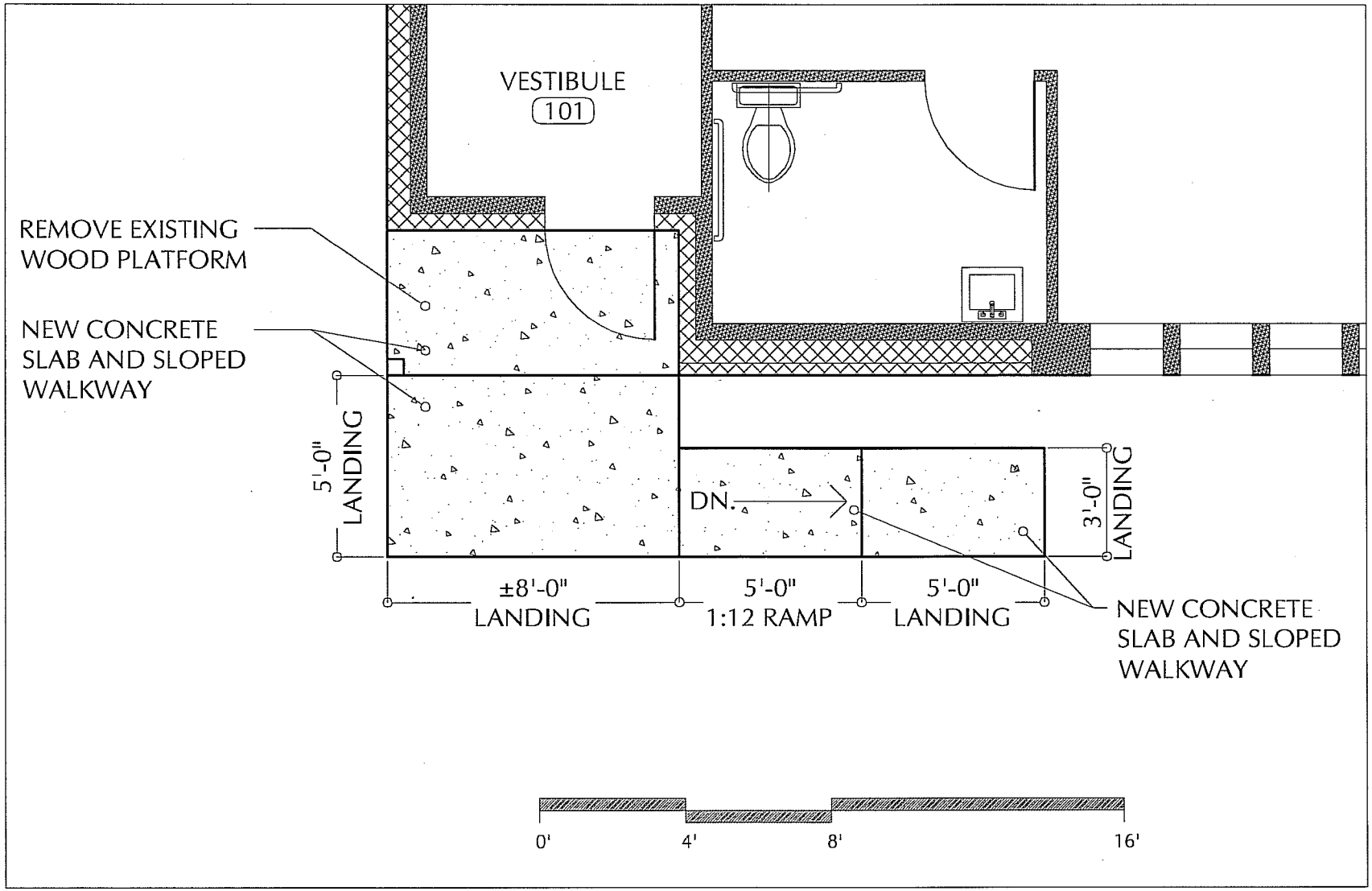
I. Operating Features:
   1. Digital Microprocessor Control: Electronic programmable means for setting, changing, and adjusting control features with capability for monitoring and auditing gate activity. Provide unit that is isolated from voltage spikes and surges.
   2. System Integration: With controlling circuit board capable of accepting any type of input from external devices.
   3. Master/Slave Capability: Control stations designed and wired for gate pair operation.
   4. Automatic Closing Timer: With adjustable time delay before closing and timer cut-off switch.
   5. Open Override Circuit: Designed to override closing commands.
   6. Reversal Time Delay: Designed to protect gate system from shock load on reversal in both directions.
   7. Maximum Run Timer: Designed to prevent damage to gate system by shutting down system if normal time to open gate is exceeded.
   8. Clock Timer: Seven-day programmable for regular events.

J. Accessories:
   1. External electric-powered solenoid, magnetic lock with delay timer allowing time for lock to release before gate operates.
   2. Town of Windham, Key Lock Box ("Knox Box") at each gate.
   3. Instructional, Safety, and Warning Labels and Signs: According to UL 325.

2. FENCE GROUNDING

A. Conductors: Bare, solid wire for No.6 AWG and smaller; stranded wire for No. 4 AWG and larger.
   1. Material above Finished Grade: Copper.
   2. Material on or below Finished Grade: Copper.
   3. Bonding Jumpers: Braided copper tape, 1 inch (25 mm) wide, woven of No. 30 AWG bare copper wire, terminated with copper ferrules.

B. Connectors and Grounding Rods: Comply with UL 467.
   1. Connectors for Below-Grade Use: Exothermic welded type.
   2. Grounding Rods: Copper-clad steel.
      a. Size: 5/8 by 96 inches (16 by 2440 mm).



I-93 Corridor Office - Windham, NH

ADA ENTRANCE RAMP

NOTES:
LOWER LANDING
FLUSH WITH PARKING
AREA.

TENNANT/WALLACE
ARCHITECTS AIA PA
83 AMHERST STREET
MANCHESTER, NH 03101
TEL (603) 669 5855 FAX (603) 669 3904

SK1

DATE: 03-05-09
SCALE: 1/4" = 1'-0"